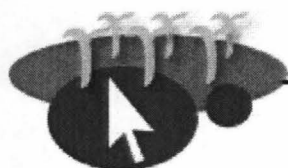




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Consider Cutting Alfalfa in October

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What a growing season it has been! Most of the state has had rainfall well above average, and one or more rainfall events that has caused some significant flooding. Where fields have not been flooded out, the ample precipitation has translated into lots of forage production. Unfortunately, however, this has not led to an ample supply of high quality forage in the silo or barn. The high humidity and frequent rainfall have made it difficult to put up high quality hay and haylage throughout much of Minnesota this summer, and thus many livestock producers are facing a shortage of high quality forage as we head into fall and winter. Many will compensate by feeding more corn silage this winter, but keep in mind that we still have an opportunity to conserve more high quality alfalfa this year.

Thanks to continued warm weather and precipitation through mid September, alfalfa and other forages generally have continued to grow rapidly. Many fields thus have an abundance of September growth that we could harvest. Traditionally, we've been cautious about cutting alfalfa in the fall due to concerns that it will increase the risk of winter injury to the stand. This was a good general recommendation 25 years ago, but our increased understanding of genetic and management factors affecting winter survival enable us to now be much less conservative about fall cutting, especially when we face the prospect of a shortage of high quality forage and high prices for hay purchasing.

The two main reasons that fall cutting has traditionally been discouraged are 1) a concern about sending alfalfa into the winter with limited energy reserves in the roots, and 2) a desire to maintain more material on the field to catch insulating snow cover. This is sound logic

and still applies today, but this conservative approach should no longer dominate our fall management decision-making. We now know that there are a number of other controllable factors that influence an alfalfa stand's potential for winter injury:

- **Stand age:** younger stands are less susceptible to winter injury than older stands
- **Variety selection:** modern, winter hardy, multi-disease resistant varieties are less susceptible to winter injury than are older varieties
- **Soil pH:** alfalfa in soils with pH 6.5 to 7.0 is less susceptible to winter injury than when grown at pH 6.0 or less.
- **Soil K:** high soil K levels reduce the likelihood of winter injury
- **Soil drainage:** winter injury is less likely in well drained versus poorly drained fields or fields that are very wet in fall.

When the above conditions are in the "low risk" category, the chances of fall cutting causing winter injury are low. In essence, healthy, well-managed alfalfa plants with good genetics are not very susceptible to winter injury when cut in the fall, especially if that cutting comes close to the time of the first killing frost (early to mid October). The risk is further reduced if stands have not been cut frequently earlier in the season. In other words, if the fall cut is only the 3rd cutting of the season, the risk of a winter injury is minimal.

Table 1 shows data from a cutting management study with variable fall cutting dates conducted in Minnesota in the mid 1980's. The data represent 3 years of cutting treatments on 3 alfalfa varieties averaged over 2 experiments (total of 6 years of data). Note that within 3- or 4-cut systems, treatments with September 15 or October 15 harvest dates did not have reduced yield compared to treatments with the last cut September 1. In addition, the minimum single season yield obtained for each harvest regime over the 6 years of testing (as shown by the yield range) never occurred during the final year of cutting. In fact, maximum yields were sometimes obtained during the final (3rd) year of cutting. This further indicates that fall cutting was generally not detrimental to long-term yields or stands. Interestingly, a 4-cut system with the final two cuttings on September 1 and October 15 produced among the highest total season yields. This cutting schedule seems particularly relevant this year, with first cutting generally being late statewide due to an unusually cool May. It is important to note, however, that within that system, alfalfa was allowed to mature to flower at two of the four cuttings; this compromised quality to some degree, but allowed plants to accumulate a high level of carbohydrate reserves prior to two of the four cuttings. Nevertheless, the data clearly

show that fall cutting was not detrimental to yields of stands that were subjected to cutting treatments for 3 consecutive years.

Table 1. Influence of cutting frequency and timing on total season yield and season average forage quality of alfalfa at Rosemount, MN (average of two 3-year experiments).

Cuts per Year	Avg. Cutting Dates	Avg. Total Season Yield	Yield Range	Season Avg. Digestible DM	Season Avg. CP
		Tons DM/acre		% DM	
3	6/4, 7/14, 9/1	4.9	3.9-6.2	59	18
	6/4, 7/14, 9/15	4.7	3.5-5.7	57	18
	6/4, 7/14, 10/15	4.8	3.5-5.8	54	17
4	5/24, 6/25, 8/4, 9/1	4.1	2.9-5.4	65	21
	5/24, 6/25, 8/4, 9/15	4.4	2.9-5.9	64	20
	5/24, 6/25, 8/4, 10/15	4.5	3.2-5.3	60	19
	6/4, 7/14, 9/1, 10/15	5.1	3.9-6.2	60	19
LSD (0.05)		0.4		2	1

Source: Sheaffer, C.C., and G.C. Marten. 1990. J. Prod. Agric. 3:486-491.

Depending upon harvest frequency, under good September growing conditions, a producer can expect to harvest about a ton of dry matter per acre of high quality alfalfa in October. Having drying conditions adequate to produce hay can be a challenge (preservatives may be an option), but appropriate moisture for haylage is generally not difficult to achieve. Grazing is another option, as long as bloat precautions are taken.

Summary Points

Where you have a foot or more of growth in October of a modern, winter hardy, multi-disease resistant alfalfa variety on a good alfalfa soil with adequate potassium; consider harvesting at least your older alfalfa stands to provide more

high quality forage for this winter. Alfalfa stands typically begin to lose yield potential after their third year anyway, so where high quality forage is a priority, concerns about damaging stands more than 3 years old should generally not weigh heavily in the decision of whether or not to cut in the fall.

One potentially high risk factor this fall is soil moisture. Fields that are very wet going into the winter have a higher risk of winter injury if a fall cutting is taken.

If you're of a conservative bent and/or in an area where snow tends to blow off fields with short stubble, you may wish to leave strips of uncut alfalfa to help catch snow.

It's still preferable to avoid cutting in the "heart" of the fall critical period (i.e. mid-late September). Better to target early (northern MN) to mid (southern MN) October, near the time when a killing frost is likely and thus continued growth unlikely.

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